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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/628,609

07/29/2003

Brian T. Pozsgay

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12/23/2004

Philip H. Burrus, IV
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EXAMINER

ASSOUAD, PATRICK J

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,609

Applicant(s)

POZSGAY ET AL.

Examiner

Patrick J. Assouad

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A

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/29/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on pg. 4, line 3, the status of the indicated copending application which has been incorporated by reference should be updated. The cited application has now matured into US Patent 6,316,916.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunstan (US 5,541,489) in view of Maggert et al. (US 6,765,366 B2).

4. Dunstan discloses a smart battery power availability feature based on battery-specific characteristics. Most notable are Figs. 4 and 12 reproduced below.

FIG. 4

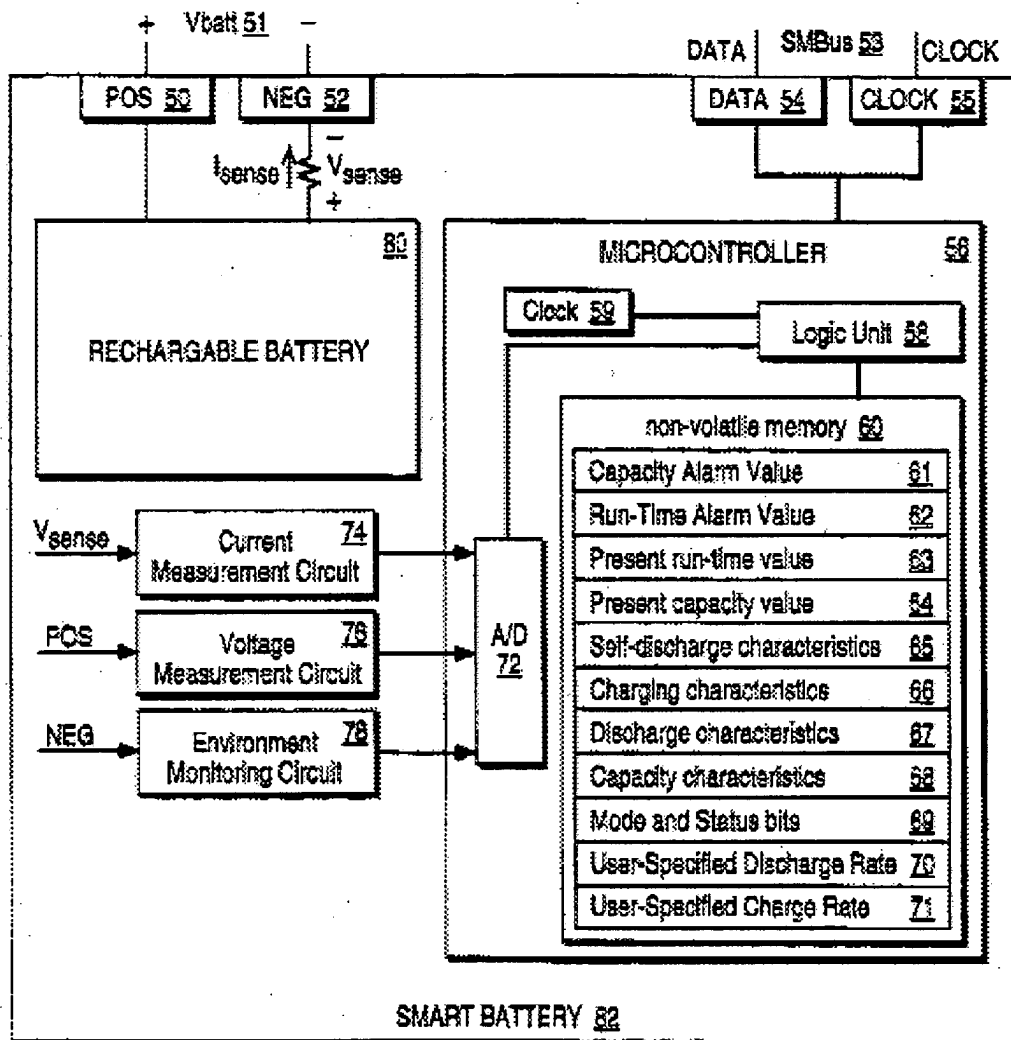
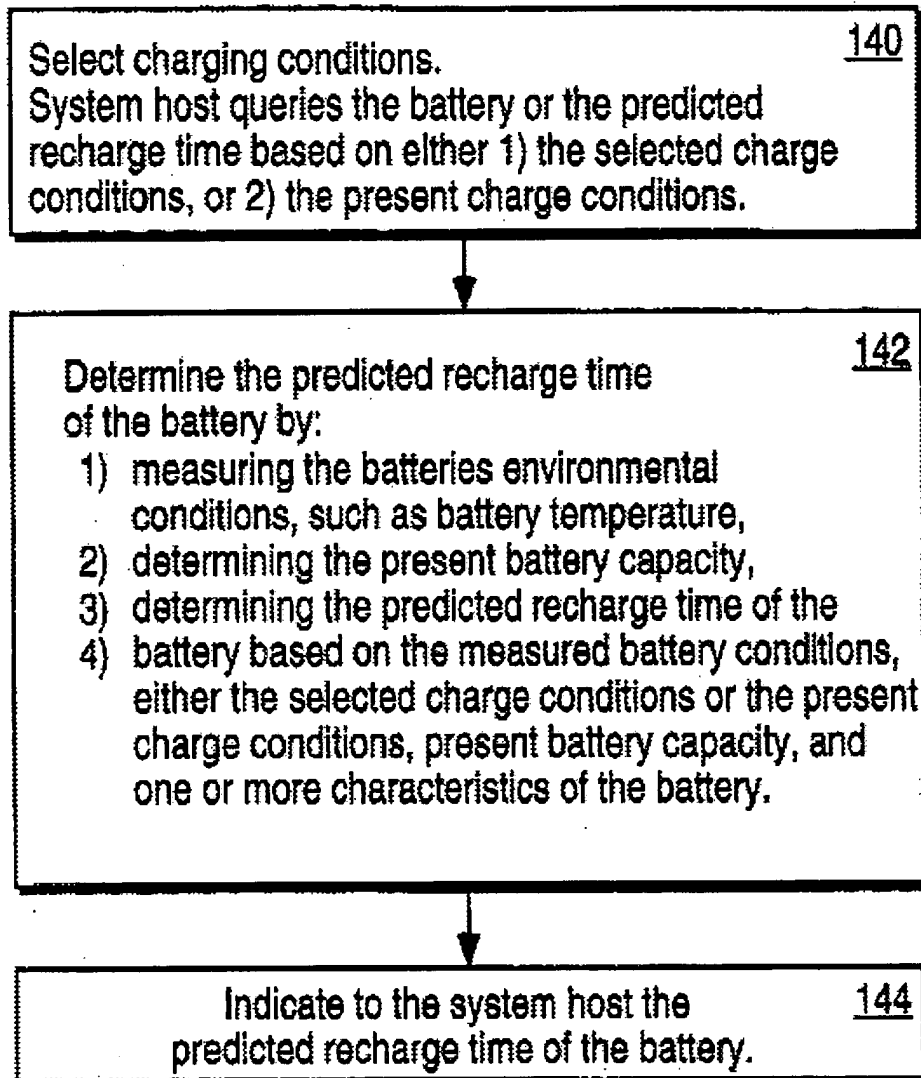


FIG. 12



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5. The correspondence between the instant claimed invention (claim 1) and that of Dunstan is as follows:

the "charger" is the Smart Battery Charger 32 or 162 of Dunstan;

the "rechargeable battery" is the Smart Battery 34 of Dunstan; also note col. 5, third paragraph, of Dunstan:

Smart battery 34 is a rechargeable battery that is equipped with electronics to provide present capacity and charging information about the battery to system host 30 and smart battery charger 32. The electronics can be embedded in the battery pack, or exist outside the battery pack. Wherever located, the electronics must be able to measure the environmental conditions of the smart battery 34. Smart battery 34 maintains information regarding its environment, charging characteristics, discharge characteristics, self-discharge characteristics, capacity characteristics, present capacity, and total capacity. This battery-specific information may be stored with, or separate from, smart battery 34, but must be battery-specific. Typically the battery-specific information is maintained within smart battery 34. The characteristics stored may be functions of temperature, battery current, battery voltage, environmental conditions, or other variables affecting battery performance. The battery characteristics may be stored in the form of tables, formulas, or algorithms that represent the characteristics of the battery. Environmental information tracked by smart battery 34 may include battery temperature, humidity, air pressure, or other conditions that influence battery performance and/or capacity. Smart battery 34 may also include programmable alarm values for events, such as over-charge, over-voltage, over-temperature, temperature increasing too rapidly, remaining run-time and remaining capacity.

"identifying a charging process... comprising a plurality of charging states..." is also seen at least in the above (reproduced) paragraph; and

"determining which of the plurality of charging states is being executed... [and] calculating a first time to completion for the state being executed... [and] calculating at least a second time to completion for at least one of the remaining states of the plurality of charging states... [and] calculating the time to completion for the charging process by

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adding the first and the...second time to completion" is seen in at least Fig. 12

(reproduced above) and its description (reproduced below) in col. 14 of Dunstan:

FIG. 12 is a flowchart illustrating the present invention method for predicting the recharge time of a battery. For example, the power management system in a computer may provide the following charging options to a user:

User Selects	System Uses a Charge Rate of:
Quick Charge	1000 mA
Medium Charge	300 mA
Conserve Battery Life	100 mA
Select a Charge Rate	<enter a charge rate>

These represent user-selectable recharge condition options available to the user. However, what the user may really be interested in is whether her battery can be recharged before a critical meeting in 45 minutes. If the user selects the "Quick Charge" option the present invention recharge time prediction method may predict a recharge time of 30 minutes based on present battery capacity. The user may also be informed that a Quick Charge has a significantly larger impact on shortening the battery's life than other options. Selecting the "Medium Charge" option may predict a recharge time of 60 minutes. Selecting the "Conserve Battery Life" option may predict a recharge time of 2 hours. If the "Select a Charge Rate" option is selected, the user can enter a custom charge rate. Alternatively, the user can select a custom charge time. Thus, predicted battery recharge time based on user-defined charge rates allows the user to determine the charge rate option that best matches his present needs.

Note that the Smart Battery of Dunstan may be initially in a plurality of charging states and that the "predicted recharge time" of step 142 of Fig. 12 of Dunstan is specifically a function of "measured battery conditions, either the selected charge conditions or the present charge conditions, present battery capacity, and one or more characteristics of the battery."

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6. The minor difference between the instant claimed invention (claim 1) and that of Dunstan lies in the claimed "charger comprising a means of processing data capable of identifying the rechargeable battery." Dunstan clearly provides a charger "capable of identifying a rechargeable battery." See at least Figs. 3-4 and 10 of Dunstan.

However, in light of the claimed means-plus-function language, we must turn to the instant Specification, and we see that Fig. 3 (reproduced below) shows such a means and this means may not be entirely equivalent to that of Dunstan.

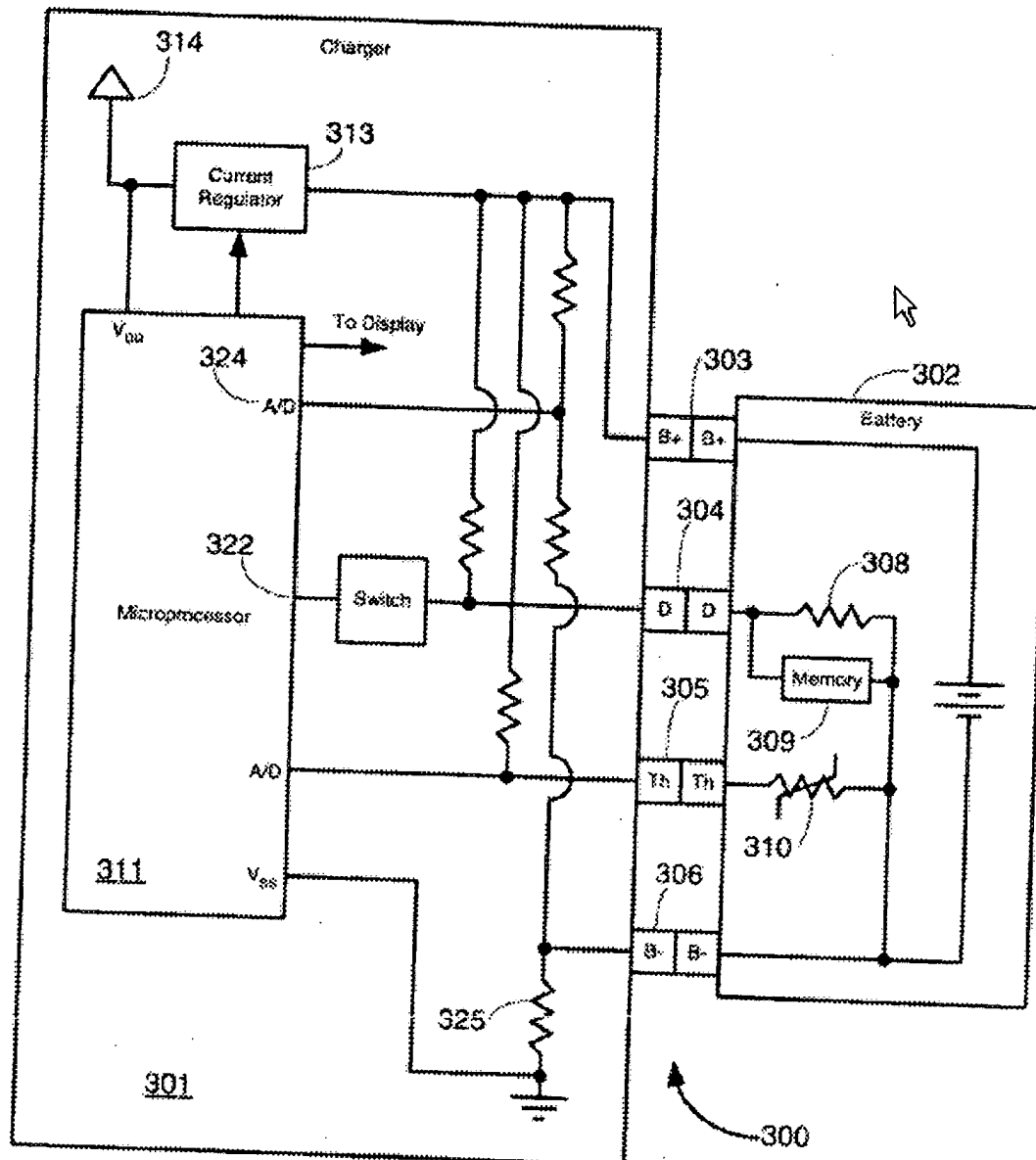


FIG. 3

7. Maggert et al. however teach a substantially identical charger or charging means in their Fig. 5 reproduced below.

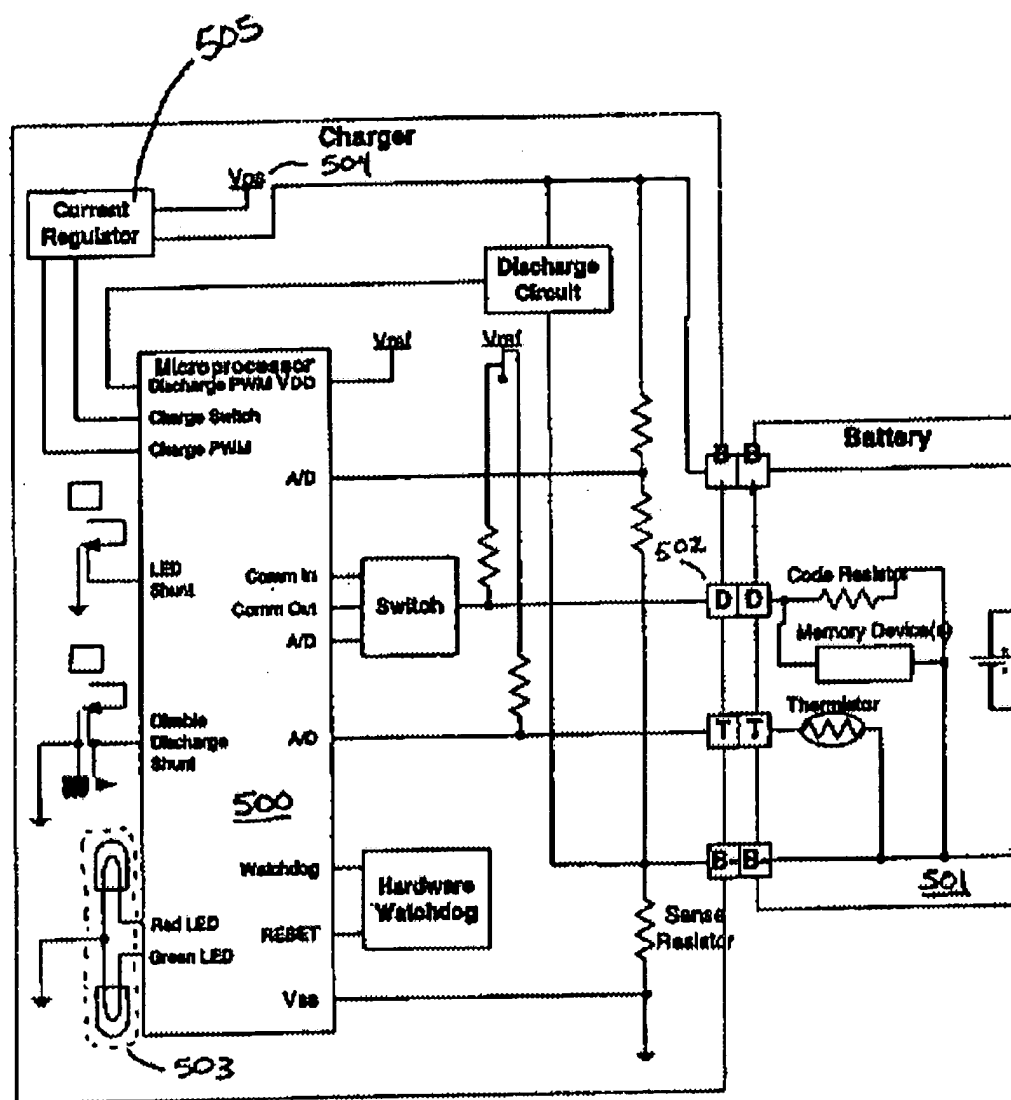


FIG. 5

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8. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the charging means of Maggert et al. into the Smart Battery system of Dunstan because such a combination provides a system host and ultimately a user, the predicted recharge time of the system's battery, even under changing environmental and/or charging and/or other battery conditions, for a variety of different self-identifying batteries.

9. As per dependent claims 2-3, the plurality of charging states, and noting that numerous self-identifying batteries will have numerous different charging characteristics, see at least the charging characteristics 66, mode and status bits 69, or user-specified charge rate 71 of Fig. 4, or the table in col. 14 of Dunstan.

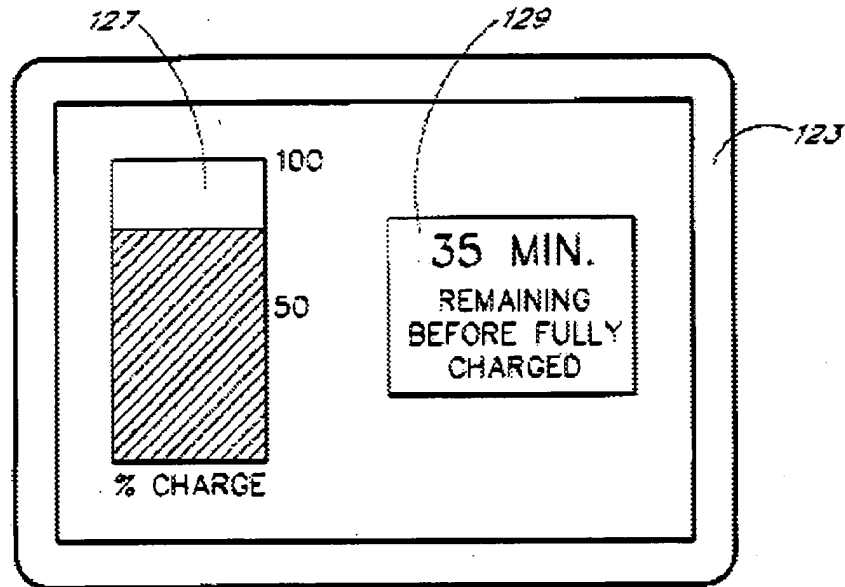
10. As per dependent claim 4, see at least step 140 of Fig. 12 of Dunstan which is the "system host queries the battery or the predicted recharge time based on either 1) the selected charge conditions, or 2) the present charge conditions."

Allowable Subject Matter

11. Claims 5-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Most notable is Anderson ('871), Fig. 3, reproduced below:



13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Assouad whose telephone number is 571-272-2210. The examiner can normally be reached on Tuesday-Friday, 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick J Assouad
Primary Examiner
Art Unit 2857

pja